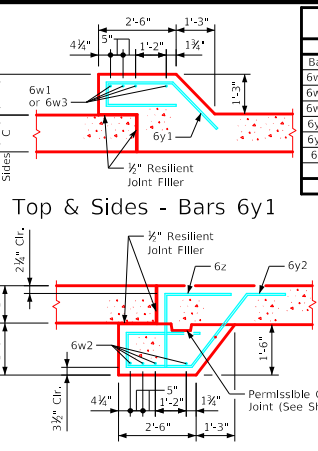
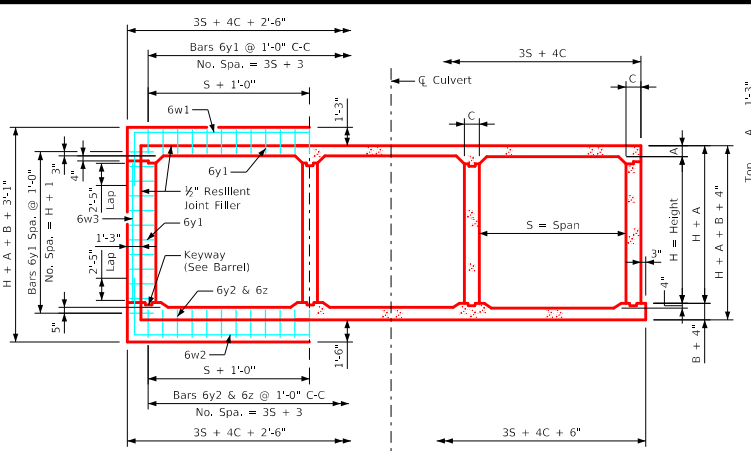


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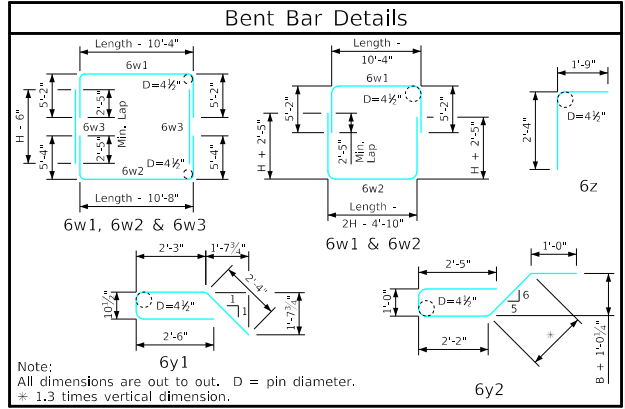


Estimate of Quantities - One Joint - 12' Span

Bill of Reinforcing Steel		12' x 4'			12' x 5'			12' x 6'			12' x 7'			12' x 8'			
Bar	Location	Shape	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight
6w1	Slab & Walls	[Symbol]	4	51'-4"	308	4	51'-4"	308	4	51'-4"	308	4	51'-4"	308	4	51'-4"	308
6w2	Floor & Walls	[Symbol]	4	53'-10"	323	4	55'-10"	335	4	51'-8"	310	4	51'-8"	310	4	51'-8"	310
6w3	Walls	[Symbol]	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6y1	Top & Sides	[Symbol]	52	8'-0"	625	54	8'-0"	649	56	8'-0"	673	58	8'-0"	697	60	8'-0"	721
6y2	Bottom	[Symbol]	40	9'-9"	586	40	9'-9"	586	40	9'-9"	586	40	9'-9"	586	40	9'-10"	591
6z	Bottom & Floor	[Symbol]	40	4'-1"	245	40	4'-1"	245	40	4'-1"	245	40	4'-1"	245	40	4'-1"	245
Total Weight (LB)					2087			2123			2188			2224			2265
Total Concrete (CY)					15.0			15.3			15.6			15.8			16.1

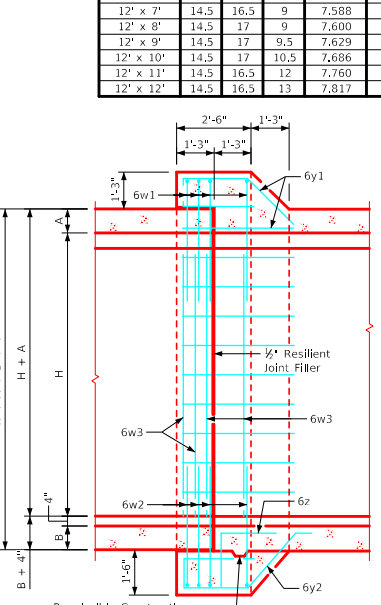
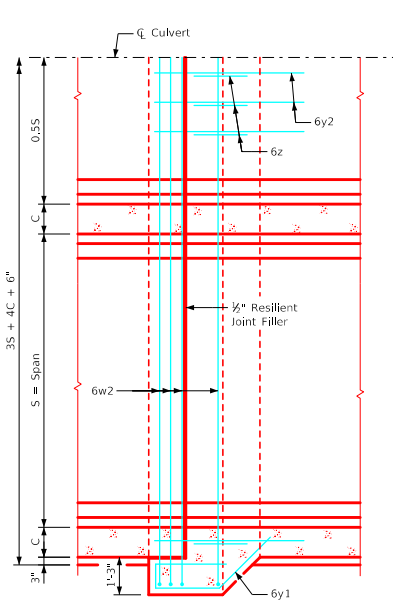
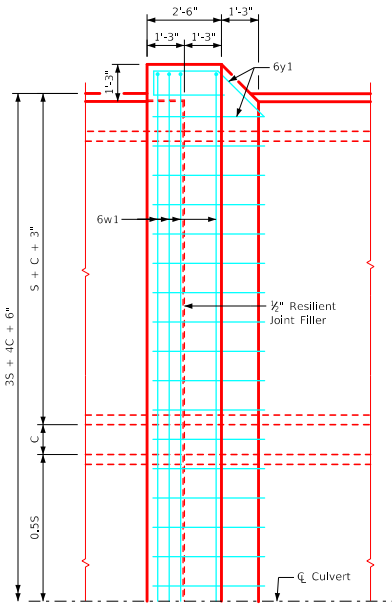
Estimate of Quantities - One Joint - 12' Span

Bill of Reinforcing Steel		12' x 9'			12' x 10'			12' x 11'			12' x 12'			
Bar	Location	Shape	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight
6w1	Slab & Walls	[Symbol]	4	51'-6"	309	4	51'-10"	311	4	52'-4"	314	4	52'-8"	316
6w2	Floor & Walls	[Symbol]	4	51'-10"	311	4	52'-2"	313	4	52'-8"	316	4	53'-0"	318
6w3	Walls	[Symbol]	8	8'-6"	102	8	9'-6"	114	8	10'-6"	126	8	11'-6"	138
6y1	Top & Sides	[Symbol]	62	8'-0"	745	64	8'-0"	769	66	8'-0"	793	68	8'-0"	817
6y2	Bottom	[Symbol]	40	9'-10"	591	40	9'-10"	591	40	9'-9"	586	40	9'-9"	586
6z	Bottom & Floor	[Symbol]	40	4'-1"	245	40	4'-1"	245	40	4'-1"	245	40	4'-1"	245
Total Weight (LB)					2303			2343			2380			2420
Total Concrete (CY)					16.5			16.9			17.3			17.7



Concrete Placement

Barrel Size	Barrel Dimension			Bell Joint Quantities (CY)		
	A	B	C	Footing	Walls	Slab
12' x 4'	14.5	16.5	9	7,588	1,047	6,345
12' x 5'	14.5	16.5	9	7,588	1,332	6,345
12' x 6'	14.5	16.5	9	7,588	1,618	6,345
12' x 7'	14.5	16.5	9	7,588	1,903	6,345
12' x 8'	14.5	17	9	7,600	2,189	6,345
12' x 9'	14.5	17	9.5	7,629	2,474	6,369
12' x 10'	14.5	17	10.5	7,686	2,760	6,416
12' x 11'	14.5	16.5	12	7,760	3,045	6,487
12' x 12'	14.5	16.5	13	7,817	3,331	6,535



Notes:

- Dimensions and quantities shown are based on slab, floor, and wall thicknesses (A, B, and C, respectively). Values for these dimensions, under varying fill conditions, can be found on the TRRCB culvert barrel detail sheets.
- Change lengths of bars 6w1, 6w2, 6z, and adjust reinforcing steel and concrete quantities accordingly for slab, wall, and floor thicknesses other than shown.
- All bar lengths are estimated with a 2" clearance from concrete edge to outside of bar, except as noted.
- Material and construction to be in accordance with the current Standard Specifications of I.D.O.T.
- See Sheet TRRCB G2-20 for General Notes, Specifications, and Design Stresses.
- Bars 6w1 & 6w2 may be furnished in two equal lengths adding 2'-5" to the overall length to obtain a 2'-5" min. lap. The above is to be performed at no additional cost to the contracting authority.
- Barrel floor bars m1 & m9 are to be shortened 6" in length at bell joints.
- Dimensions "A", "B" and "C" are in inches. "Length" dimensions in bar lists are in feet and inches.

LATEST REVISION DATE	 APPROVED BY BRIDGE ENGINEER	Standard Design Triple Reinforced Concrete Box Culverts July, 2020	
		Culvert Bell Joints	TRCBJ 2-20
		12' Span	